



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/563,669

05/25/2006

Yoshiaki Nakayoshi

501.45788X00

1765

20457

7590

06/03/2010

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER

CHIEN, LUCY P

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

06/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,669	Applicant(s) NAKAYOSHI ET AL.	
	Examiner LUCY P. CHIEN	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,22 and 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-8,21,23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 1/6/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species I in the reply filed on 3/3/2010 is acknowledged.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1,4,5,7,21,23,25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US 6128061) and of Sakamoto et al (US 6914656) in view of Towler et al (US 6714276)

Regarding Claim 1, 4,5,7,21,

Lee et al discloses (Fig. 4a) on a liquid-crystal-side surface of one substrate(30) of a pair of substrates (50) which are arranged to face each other with liquid crystal (60) there between, a region which is surrounded by a plurality of gate signal lines (31) which are arranged in parallel to each other and a plurality of drain signal lines (33) which are arranged in parallel to each other in a state that the drain signal lines intersect the gate signal lines defines a pixel region; the pixel region includes a switching element (35) which is operated in response to a scanning signal from the gate signal line, a pixel electrode (39) to which a video signal from the drain signal line is supplied through the switching element, and a counter electrode (37) which generates an electric

Art Unit: 2871

field between the counter electrode and the pixel electrode; the pixel electrode which is constituted of a group of electrodes which extend in one direction and are arranged in parallel to each other in the direction which intersects one direction above the insulation film in a state that the group of electrodes are overlapped to the counter electrode are formed, and in another region, the counter electrode which is constituted of a group of electrodes which extend in one direction and are arranged in parallel to each other in the direction which intersects one direction below the insulation layer and the pixel electrode which is constituted of a group of electrodes which extend in one direction and are arranged in parallel in the direction which intersects one direction above the insulation film and is arranged alternately with the counter electrode. Wherein the pixel and counter electrode is made of a light-transmitting material (column 7, rows 50-53).

Lee et al does not disclose the pixel region is constituted of divided respective regions; wherein in one region, the counter electrode made of one of a light-transmitting material and a light-reflecting material which is formed on the center except for a slight periphery of the region below an insulation film. The counter electrode covering the drain signal line. The insulation film has a larger thickness in another region than one region such that a film thickness of liquid crystal layer in one region is approximately three times as large as a film thickness of a liquid crystal layer in another region.

Sakamoto et al (fig. 5) discloses the pixel region is constituted of divided respective regions; wherein in one region, the counter electrode made of one of a light-transmitting material (6) and a light-reflecting (5) material which is formed on the center

Art Unit: 2871

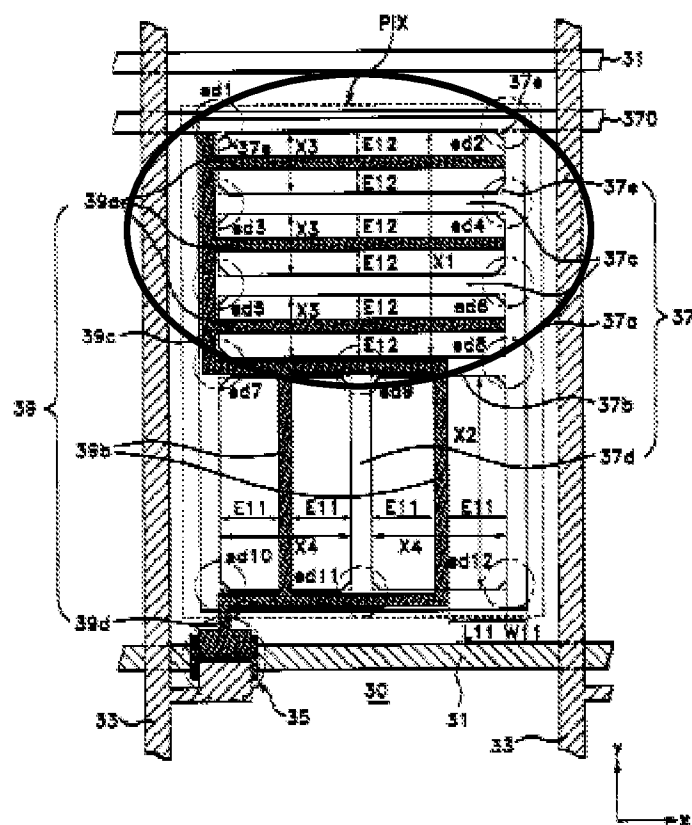
except for a slight periphery of the region below an insulation film. The counter electrode (26a26b26c26d,26) covers the drain signal line (24) therefore to provide signals to all other pixels nearby by using the counter electrode's common line.

Towler et al discloses the insulation film has a larger thickness in another region (11, transmissive region) than one region such that a film thickness of liquid crystal layer in one region (active area 10) is approximately three times as large as a film thickness of a liquid crystal layer in another region (column 11, lines 55-65) to improve the brightness of the active region.

It would have been obvious to one of ordinary skill in the art to modify Lee et al to include Sakamoto's a transmissive and reflective area motivated by the desire to provide a transfective display that have wide viewing angel characteristics (abstract) and Sakamoto's counter electrode (26a26b26c26d,26) covers the drain signal line (24) therefore to provide signals to all other pixels nearby by using the counter electrode's common line. And, to further include Towler et al's insulation film being three times as large as a film thickness of a liquid crystal layer in another region motivated by the desire to improve the brightness of the active region(column 11, lines 55-65).

Regarding Claim 23,25-27

In addition to Lee et al, Sakamoto, and Towler et al as disclosed above, Lee et al disclose wherein the substantially planar counter electrode (37) in the one region is a substantially rectangular planar counter electrode which is overlapped with the group of electrodes of the pixel electrode (39) in the one region (circled below)



Claim 6,8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US 6128061) and of Sakamoto et al (US 6914656) and of Towler et al (US 6714276)in view of Kurahashi et al (US 20020126241)

Regarding Claim 6,8,

Lee et al, Sakamoto et al, and Towler et al discloses everything as disclosed above.

Lee et al, Sakamoto et al, and Towler et al do not disclose wherein the respective insulation films formed in the respective regions are formed of a sequentially stacked body which is constituted of a protective film made of an inorganic material and a protective film made of an organic material, and the respective counter electrodes are formed of a light transmitting material.

Kurahashi et al discloses [0097] wherein the respective insulation films formed in the respective regions are formed of a sequentially stacked body which is constituted of a protective film made of an inorganic material and a protective film made of an organic material, and the respective counter electrodes are formed of a light transmitting material.

It would have been obvious to one of ordinary skill in the art to modify Lee et al, Sakamoto et al, and Towler et al to include Kurahashi et al's respective insulation films formed in the respective regions are formed of a sequentially stacked body which is constituted of a protective film made of an inorganic material and a protective film made of an organic material, and the respective counter electrodes are formed of a light transmitting material motivated by the desire to suppress occurrence of after images otherwise occurring due to electric fields as created between the pixel and counter electrode [0097].

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2871

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUCY P. CHIEN whose telephone number is (571)272-8579. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lucy P Chien
Examiner
Art Unit 2871

/David Nelms/
Supervisory Patent Examiner, Art Unit 2871